

Forests regenerate on titled Indigenous territories

A multiscale interdisciplinary analysis of 25 Indigenous communities over 40 years in the Peruvian Amazon

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Key messages

- Tropical forests are highly regenerative, and people who live there often support natural regeneration and reforestation, so it is critical to report on these and not only on forest loss (deforestation).
- Titling Indigenous community territories (ICTs) can prevent outsiders from taking over degraded forest areas for other uses, thereby supporting more forest regeneration.
- Formalizing tenure for Indigenous territories can be an important component in advancing regional, national and global agendas for reforestation, climate change and justice.
- Communities vary considerably in their visions of conservation and development, including how they relate to nature as well as how and why they may deforest and reforest. Those who direct the flow of environmental conservation funds must consider these variations, rather than assuming that all Indigenous communities are inherently devoted to environmental stewardship.
- Multidisciplinary science that includes Indigenous experience and knowledge reduces the likelihood that 'one size fits all' environmental solutions based only on Remote Earth Observation data will be employed.

Introduction

There is a growing consensus among development and conservation organizations and scholars that Indigenous communities' land and forest management practices are inherently conducive to positive forest conservation outcomes. According to this consensus, the formalization of Indigenous lands should support conservation by excluding outsiders interested in their lands for natural resources or human settlements. If ICTs do conserve forests, then roughly 80 percent of the world's biodiversity would be safest in the hands of the 370 million Indigenous Peoples (< 5% of the global human population) who manage these territories, accounting for 25%–33% of the world's land surface (Garnett et al. 2018).

In Peru, Indigenous groups hold title to at least 36.3 Mha of land, thus titled community land in the Amazon region accounts for at least 18% of the forest area of the Peruvian Amazon. However, there are pending claims Indigenous Peoples to around 34.9Mha (Notess et al. 2018). In light of this, efforts to ensure that Indigenous land is formally titled have been at the forefront of many political programmes, in

order to secure a major win for the people and forests of the Peruvian Amazon.

A popular question at the interface of global socio-environmental science, policy and practice has been to ask whether titled ICTs are especially effective entities in the global effort to bring deforestation to net zero and tackle climate change. The more common answer is yes, and many non-governmental organizations (NGOs) and some governments support this. For example, at the 2021 UNFCCC Conference of the Parties (COP26), the United States, the United Kingdom, Germany, Norway and the Netherlands pledged to direct USD 1.7 billion (bolstered by an additional USD 600 million pledged by philanthropic organizations) to "support the advancement of Indigenous Peoples' and local communities' forest tenure rights and greater recognition and rewards for their role as guardians of forests and nature,"¹ which is also related to the UN Sustainable Development Goals (SDGs).

¹ <https://ukcop26.org/cop26-iplc-forest-tenure-joint-donor-statement/>

However, the scientific evidence providing decision makers and stakeholders with data about forest dynamics in ICTs is problematic as it is often based on short-term analyses, uses only large-scale Earth Observation methodologies, measures only accumulated deforestation (ignoring valuable reforestation), and does not include any field visits for ground truthing or consultation with Indigenous communities to understand their views and lived experience.

It is also worth noting that not all Indigenous peoples or communities are the same, with regard to their world views or to the environmental outcomes on their lands. Hence approaches should be tailored to local needs and conditions.

Background

This publication reports findings from the Global Comparative Study of Forest Tenure Reform led by the Center for International Forestry Research (CIFOR) and the National Agrarian University of Peru (UNALM). The project seeks to provide a better understanding of the opportunities, barriers and needs facing stakeholders involved in the formalization of collective rights to forests and potential environmental outcomes.² This publication reports on a study undertaken in ICTs in the Peruvian Amazon region of Madre de Dios (Bennett et al. 2023).

To tackle the scientific shortfalls and related policy challenges described in the introduction, this study (a) conducted a longitudinal remote sensing study of both deforestation and reforestation over a period of 40 years at intervals of five years on three scales – overall area of 25 communities (415,749 ha), clustered groups of communities, and individual communities; (b) validated the remote sensing results with field and random verification; and (c) visited the communities to undertake qualitative work – creating historical political ecologies and understanding local perspectives on current and historical land use related to the remote sensing data (see also Bennett et al. under review).

Measuring and investigating the challenges, enabling factors and implications of reforestation in land-use change analyses of ICTs

One of the key contributions of this study was the inclusion of the forest regeneration metrics alongside the deforestation data we generated. These regenerated forests are often overlooked in international efforts to restore forests and address climate change. Many studies report only accumulated deforestation, which ignores the contours of the dynamic lives of forests and people in the Amazon and the tropics in general. We validated our 40-year Landsat remote sensing imagery data with ground verification and random validation (ARC-GIS), and our classification maps

were shown to be highly accurate, with a precise value of 94% for the percentage correctly classified. It was evident that the regeneration of forest – in many cases as old as 30 years since deforestation for settlement or extraction – was significant. Overall, on the 415,749 ha, there was a net deforestation of only 3.5%. In some communities, net deforestation was zero.

Figure 1 shows how important the inclusion of the reforestation data was in reducing the accumulated values of forest loss in one of the groups of communities we analysed, showing a truer (and more optimistic) picture of how these loss and gain dynamics interact. Figure 2 compares how a map would look to a decision maker or stakeholder when only accumulated deforestation is depicted, and beside it, how it looks with the inclusion of regeneration.

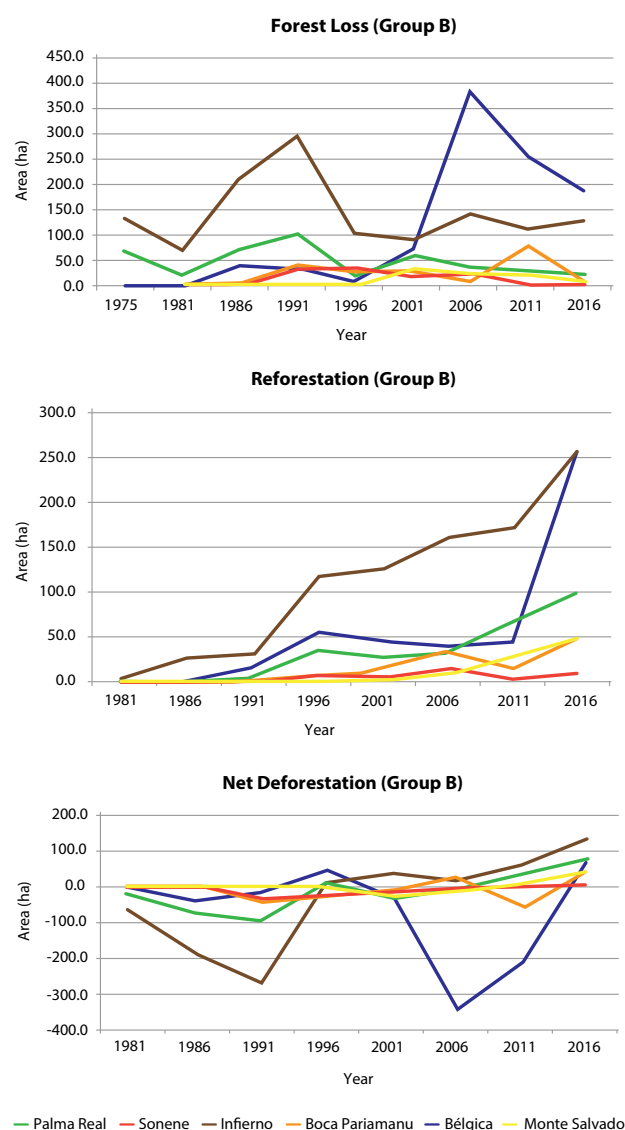


Figure 1. Forest loss, forest gain and net deforestation 1975–2016 in 6 of 25 communities

Source: Elaborated by the authors

² <https://www.cifor.org/gcs-tenure/>

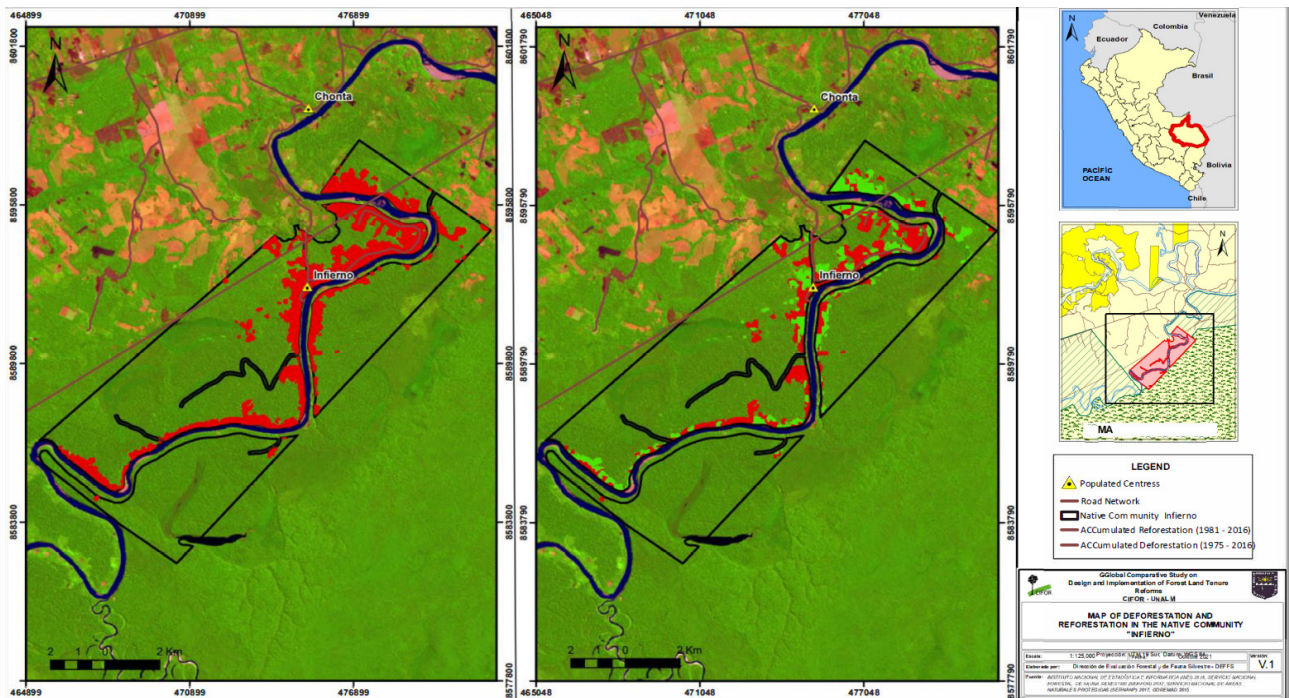


Figure 2. Accumulated deforestation over 40 years (left), compared with deforestation and regeneration dynamics (right)

Sources: Instituto Nacional de Estadística e Informática (INEI) 2016, Servicio Nacional Forestal y de Fauna Silvestre (SERFOR) 2017, Servicio Nacional de Áreas Naturales Protegidas (SERNANP) 2017, Regional Government of Madre De Dios (GOREMAD), 2017. Map elaborated by Authors.

The question of ‘exclusion’ is heavily debated and deals with the capacity of Indigenous communities to prevent small- or large-scale land prospectors from extracting natural resources – such as wood, gold, oil or non-timber forest products – from their land when they hold land title, versus their vulnerability and incapacity to do so without title. However, the regeneration we detected within the titled ICTs opens the debate further. It supports the thesis that the exclusion rights that a title bestows on Indigenous communities facilitates land and forest management and makes it harder for small- or large-scale farmers to ‘possess’ degraded or deforested lands, or for the state to reassign forest for other uses, such as farming or extraction concessions. Thus, the forest is afforded the opportunity to regenerate rather than being turned into pasture, croplands or resource extraction areas that are detrimental to both forests and the climate.

Even in the case of the ICTs that had higher deforestation rates than average among the study of 25 – for example, those in the mining corridor, where the highest net rate was 10% – significant regeneration was taking place in their territories. The lesson here is that regeneration is an effective, low-cost and relatively rapid way to increase global forest coverage and to slow climate change (Chazdon et al. 2021), as is giving legal title to Indigenous

communities. This avoids overhauling their local economies using western ideas of conservation, commerce or livelihoods. However, this approach would mean rethinking many forest-based climate programmes in a way that the rewards for long-term regeneration – and not just the conservation of old-growth forests – in Indigenous communities are a far bigger part of the sticks-and-carrots approach than is currently the case.

For example, initiatives such as REDD+, Green Climate Fund, Bonn Challenge, 30x30 initiative, Peru’s governmental net deforestation and reforestation pledges, as well as private sector stakeholders such as the We Mean Business Coalition, Business for Nature and others, could use this data to recognize and encourage organic socioecological processes in ICTs. Indigenous organizations and federations and the communities themselves are important allies in aligning the SDGs with robust scientific evidence in a way that represents them accurately and fairly on issues such as compensation for regeneration and environmental conservation. Additionally, the communities and their representatives are themselves enabling factors as they demand their rights under international conventions (e.g. ILO 169, UNDRIP), have an increasing presence at big environmental forums and are gaining exposure to state ministries that previously to a large extent ignored them.

Dynamic forests, dynamic communities: Not all communities are the same and this is important for 'green' initiatives in ICTs

At the community level, our qualitative research revealed that deforestation, reforestation as well as economic activities and world views about nature were highly varied. For example, some communities preferred to dedicate large areas of their land to mining or timber extraction, integrating more with external markets. These communities tended to move away from communal governance toward structures that are more akin to individualistic rather than community decision making (Figure 3). Other communities fared very well with ecotourism, sustainable logging and other pro-environmental economies after receiving external support from the state or NGOs. Understanding these differences is a crucial part of the solution, enhancing the chances of successful equitable action related to environmental conservation with ICTs.

For a long time, Peru has had a very unstable political climate, ranking high on the Global Corruption Index

and lagging behind in the provision of services, including protection for forest peoples and nature, meaningful sanctions for violations against them and rewards for conservation (Chirif et al. 2019). Furthermore, the country has a history of intentional systemic violence against Indigenous Peoples (ibid.). The absence of good governance continues to be a huge challenge for achieving socioenvironmental justice, and has exacerbated violent land conflict, delayed the bestowal of land rights to Indigenous Peoples and had catastrophic consequences for nature (AIDSEP 2015). However, with international support and a more organized approach to land titling, several initiatives funded under climate programs have somewhat improved the situation (Monterroso and Larson 2018) and are slowly improving outcomes. Given that more communities have been titled recently, and new programs seek to title many more in the coming years, there is a tremendous opportunity to support Indigenous communities through recognition of their regenerating and already regenerated forests. Despite these promising signs, completing the titling process will require sustained pressure from social movements, the international community and the Peruvian state. It will also need measures to control corruption – a priority for more rapid and equitable land titling for ICTs and thus outcomes for forests.

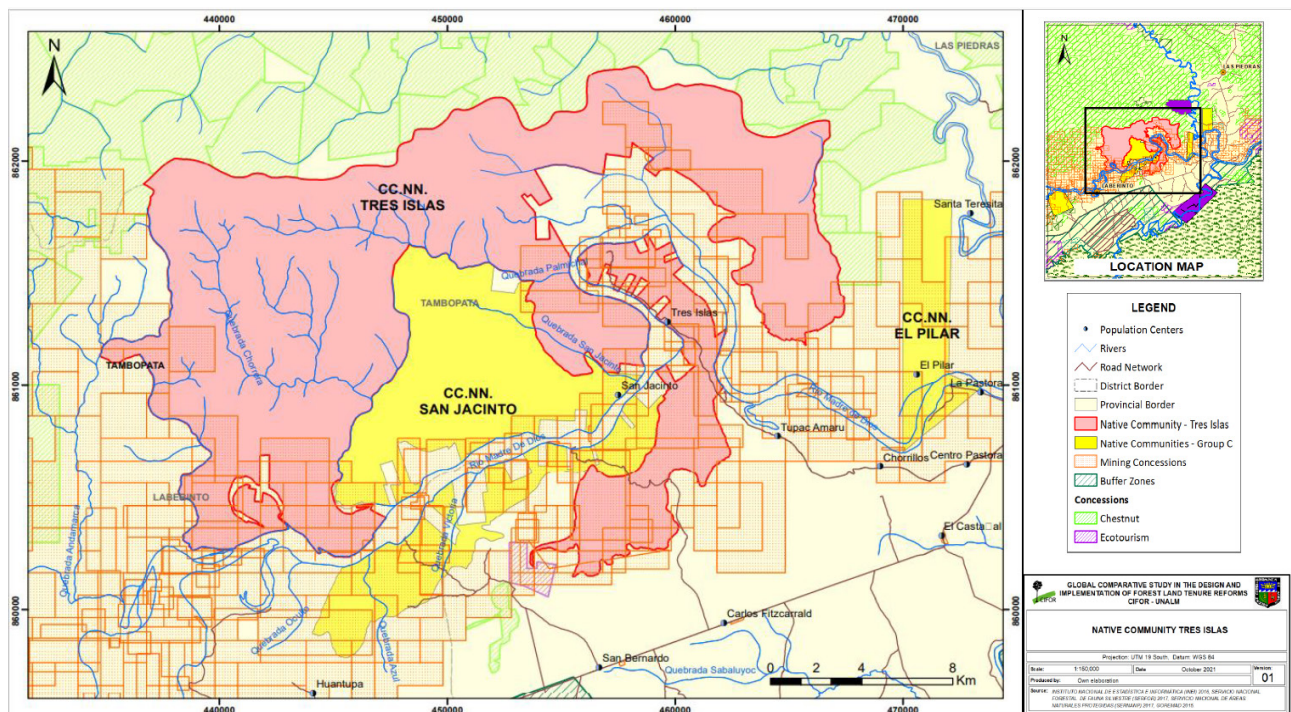


Figure 3. Sample community showing mining lots and division of the communal area for individual management at a family level

Sources: Instituto Nacional de Estadística e Informática (INEI) 2016, Servicio Nacional Forestal y de Fauna Silvestre (SERFOR) 2017, Servicio Nacional de Áreas Naturales Protegidas (SERNANP 2017, Regional Government of Madre De Dios (GOREMAD), 2017. Map elaborated by Authors.

The study found that the results were very positive when NGOs and the state worked collaboratively with individual or clusters of communities to find ecologically friendly economic solutions that were acceptable and manageable for the communities. This means engaging directly with the communities (and not just the large-scale Indigenous federations) to see what is helpful and sustainable for them, rather than developing projects in offices far from the reality on the ground. For example, many of the communities had been approached with financial aid to set up ecotourism in their territories. After speaking with the communities and looking at the remote sensing data, it was evident that the ecotourism model worked so well for some communities that they were able to continue expanding the business after external support was removed. Others found it to be an unattractive investment of their time and resources, so the projects collapsed.

Our results suggest that ICTs vary in how they relate to their environment, including how they alter their landscapes both by deforesting and by fostering forest regeneration. We show that deforestation and reforestation at different points in time reflect a plasticity and dynamism that is visible from space, but understandable only by employing other methods. These include engagement with communities using mixed qualitative and ethnographic approaches that bring local knowledge and world views to bear in documenting ecological change and planning for the future.

Recommendations

- Scientists who provide decision makers and the public with information about deforestation, particularly in relation to Indigenous and rural smallholders' economic activities, must proactively include data on reforestation and natural forest regeneration. The danger of not doing so not only leads to benign misinformation, but may also cause the Peruvian Government and scientists to incorrectly rank specific land users – including Indigenous Peoples – as large-scale 'deforesters' (Rubin-de-Celis-Llanos et al. 2019), thereby denying them the benefits and opportunities for the reforestation they are managing.
- Forest conservation policies and programmes should reward Indigenous communities for long-term forest regeneration, not just short-term conservation. This would be more aligned with how many modern Indigenous Peoples live, and thus be more attractive to them. For example, the range of adherence to traditional or ancient practices is vast, and the contact that Indigenous communities have with others also varies greatly, especially with non-Indigenous people representing the government or NGOs. Understanding and respecting this variation will require a re-organization of the 'forest conservation' classification in many national and international rewards-based programmes.

- The interpretation of environmental problems as defined by western science, and the process of designing solutions to tackle them, cannot be based solely on remote Earth Observation (EO) methodologies and must take into account socio-cultural and environmental heterogeneity. Scientists and eco-project developers, including the government, need to develop a more nuanced understanding of the socioecological context that frames Indigenous decision making. This approach may cost more initially and is harder to organize socially, which is why so many researchers, project developers and decision makers avoid it. However, despite these initial challenges, a portion of all green funds for ICTs should be invested in a phase aimed at building understanding. First, because it respects the highly differentiated local realities, desires, hopes, cosmologies and goals of Indigenous Peoples, rather than portraying them as either forest destroyers or forest defenders. Second, because it is the only way to create successful co-produced solutions, better eco-economies and more efficient green fund flows related to environmental goals linked to ICTs.
- Whatever one's viewpoint on the legitimacy of connecting the titling of ICTs to a wider environmental agenda, the Ministry of Agriculture and its financial sponsors – and the Peruvian state as a whole – should demonstrate their socio-political responsibility by prioritizing formal titling of ICTs in the wake of many years of oppression and systemic violence against Indigenous Peoples. Funders across sectors should support Indigenous communities and federations in a more engaged way – to leverage recognition of their reforestation and natural regeneration management and effectively enable conservation-based economies.

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